

	Location	Description	Manufacturer / Model	Finish / Sheen	Color	Notes
Lighting	Front Porch	Ceiling Mount	Retain existing antique lamp			Repair lamp and switch as needed
	Side Entry	Wall Mount	Van Buren Outdoor fixture, by Patriot		Black	Available at Menards
	Garage	Security	300 Watt DualBrite Motion Security Light		Black	Available at Menards
	Basement	Ceiling	Porcelain			(4) new
	Basement stairs	Flush Mount	Twin Pack, 15"		Brushed Nickel	Available at Menards
	Living Ceiling	Flush Mount	Carlton by Royce Model RFM5209ES		Pewter Finish	
	Dining Ceiling	Flush Mount	Carlton by Royce Model RFM5209ES		Pewter Finish	
	Kitchen Ceiling (2)	Flush Mount	Carlton by Royce Model RFM5209ES		Pewter Finish	
	Kitchen pendant	Pendant	Carlton by Royce Model RMP5209ES1		Pewter Finish	
	Side entry ceiling	Flush Mount	Twin Pack, 15"		Brushed Nickel	Available at Menards
	First floor bath ceiling	Flush Mount	Carlton by Royce Model RFM5209ES		Pewter Finish	
	First floor bath vanity	Sconce	Carlton by Royce Model RV5209ES1		Pewter Finish	
	Bedroom 3 (first floor)	Flush Mount	Twin Pack, 15"		Brushed Nickel	Available at Menards
	Stairs to second floor	Flush Mount	Twin Pack, 15"		Brushed Nickel	Available at Menards
	Bedroom 1	Flush Mount	Twin Pack, 15"		Brushed Nickel	Available at Menards
	Bedroom 2	Flush Mount	Twin Pack, 15"		Brushed Nickel	Available at Menards
	Second floor bath ceiling	Flush Mount	Carlton by Royce Model RFM5209ES		Pewter Finish	
	Second floor bath vanity	Sconce	Carlton by Royce Model RV5209ES1		Pewter Finish	
Plumbing Fixtures	Outlet and switch plate covers				White	
	Laundry	Laundry Utility Sink	Single bowl, 24"		White	Fiberglass
	Laundry	Laundry Faucet	74998 by Moen		Chrome	
	Kitchen	Kitchen Sink	2212 by Moen		Stainless	Available at Menards
	Kitchen	Kitchen Faucet	7825 by Moen		Chrome	Available at Menards
	Bathroom 1&2	Vanity top with integral lav	RCXX22SPW by Imperial Marble		White	XX=31 at Bath 1, XX=37 at Bath 2
	Bathroom 1&2	Lav faucet	CA84003CBN by Moen		Nickel	
	Bathroom 1&2	Toilet	Cadet Flowise by American Standard		White	
	Bathroom 1&2	Towel bar	DN6818 by Moen		Nickel	
	Bathroom 1&2	Toilet paper holder	DN6808 by Moen		Nickel	
	Bathroom 1&2	Shower rod			Nickel	
	Bathroom 1&2	Tub	Retain existing			
	Bathroom 1&2	Shower system and tub spout	82008CBN by Moen		Nickel	Available at Menards
Casework	Kitchen	Cabinets per drawings	Schock, Medallion or Midcontinent	Maple, natural		Full overlay 5-piece door, flat drawer
	Kitchen	Door hardware	Pull H63 by Schrock		Brushed Nickel	
	Kitchen	Drawer hardware	Pull H63 by Schrock		Brushed Nickel	
	Kitchen	Countertops	1755-1 by Wilsonart		Canyon Black	
	Bathroom 1&2	Vanity	MDW-2421 by Pace	Maple, natural		
	Bathroom 1&2	Medicine cabinet	SMC-2530	Maple, natural		
	Bathroom 1&2	Cabinet hardware	Pull H63 by Schrock		Brushed Nickel	

Interior Finishes	Ceilings Throughout	Ceiling paint	Sherwin Williams Low VOC	Flat	Ceiling White	
	Painted trim	Trim paint	Sherwin Williams Low VOC	Satin	Pure White SW7005	
	Natural finish trim in Living/Dining	Do not paint—refinish				
	Living Room & Dining Room	Wall paint	Sherwin Williams Low VOC	Egg shell	Nacre SW6154	
	Kitchen	Wall paint	Sherwin Williams Low VOC	Satin	Bittersweet Stem SW7536	
	Rear entry and basement stair	Wall paint	Sherwin Williams Low VOC	Satin	Nacre SW6154	
	Basement stair treads & risers	Trim paint	Sherwin Williams Low VOC	Satin	Ethereal Mood SW 7639	
	First floor bath	Wall paint	Sherwin Williams Low VOC	Satin	Bittersweet Stem SW7536	
	Bedroom 3 (first floor)	Wall paint	Sherwin Williams Low VOC	Egg shell	Nacre SW6154	
	Second floor stairs	Wall paint	Sherwin Williams Low VOC	Egg shell	Nacre SW6154	
	Bedroom 1	Wall paint	Sherwin Williams Low VOC	Egg shell	Nacre SW6154	
	Bedroom 2	Wall paint	Sherwin Williams Low VOC	Egg shell	Nacre SW6154	
	Second floor bath	Wall paint	Sherwin Williams Low VOC	Satin	Bittersweet Stem SW7536	
	Closets	Wall paint	Sherwin Williams Low VOC	Egg shell	Nacre SW6154	
	Floors Basement	Concrete floor paint			Gray	
	Walls Basement- exterior	Masonry	DryLock			
Tile & Carpet	First floor tile flooring	Porcelain tile	Cliff Pointe by DalTile		Rock	Available at Menards
	Second floor tile flooring	Porcelain tile	Cliff Pointe by DalTile		Rock	Available at Menards
Exterior Finishes	Carpet flooring where indicated	Nylon carpet	Serenity Garden by Shaw		Barn Wood	Available at Seestedt's
	Both house and garage:					
	Body	Color 1	Sherwin Williams Low VOC		SW7507 STONE LION	
	Door and Window Trim	Color 2 (trim)	Sherwin Williams Low VOC		SW7628 WINDFRESH WHITE	
	Doors	Color 3	Sherwin Williams Low VOC		SW2839 ROYCROFT	
	Roof	Shingles	GAF Elk Timberline 30 yr HD		Weatherwood	
	Gutters/Downspouts	Prefinished Aluminum			White	



**Angstrom Analytical &
Environmental Services**

5001 Cedar Lake Road * St. Louis Park, MN 55416
952-252-0405 952-252-0407 fax

January 25, 2012

Asbestos Abatement Associates
3125 Logan Ave N
Minneapolis, MN 55411
612-588-7755

Owner:
City of St. Paul
15 Kellogg Blvd.
St. Paul, MN 55102
651-266-8989

Lead-Based Paint Inspection
1554 Minnehaha Ave East St. Paul, MN

This report provides the results of lead-based paint testing conducted on January 19, 2012 at 1554 Minnehaha Ave. East. The property is a single-family residential property located in St. Paul, MN. The inspection was conducted by Kevin Hagen (MN Lic. No. LR 2036). Angstrom Analytical, Inc. was authorized by you to conduct an inspection for lead-based paint using a field portable x-ray fluorescence (XRF) analyzer. The purpose of this assessment was to determine if lead based paint exists at the above referenced property.

The property consists of a two story single family home with a full basement. The basement is unfinished. There was a garage on the property. According to Zillow.com the property was built in 1926. For sample location purposes, side A of the building is the side facing Minnehaha Ave and is lettered clockwise around the building. The exteriors consist of a metal siding with metal trim work, fascia, soffit and metal gutters, all with factory applied finishes. Building foundation is concrete. Bare soil was not observed around the property due to the snow cover. No soil samples were collected. At a minimum, the Minnesota Dept. of Health recommends bare soils be made intact by covering them over with either sod, landscaping stone or mulch.

The interior has been remodeled with most of the windows being painted or stained, uniform in size and are of the double hung type. The cabinets in the bathrooms and kitchen are unpainted and the closed shelf components are unpainted.

Results

Results of XRF analysis are summarized in the following report (see Appendix A), which utilize Department of Housing and Urban Development (HUD) thresholds (see remarks) for lead-based

paint. Painted surfaces are rated on condition as Intact, Fair or Poor. Intact surfaces are free of visual damage/deterioration. Fair or poor rating indicates the paint is damaged and is deteriorated. Any condition listed as fair or poor is a deteriorated condition. The inspection was conducted using HUD “Guidelines for the Evaluation and Control of Lead Based Paint in Housing” using the October 1997 revised Chapter 7 protocols. The sampling criteria used are found in the HUD Standards 24 CFR Part 35 et al.

Methodology

Testing was accomplished using a Niton XL 300 series. This instrument is a portable, non-destructive, in-site testing and measurement instrument that renders an average precision of +/- 0.3 milligrams per square centimeter (mg/cm^2) depending upon the length of time the sample point is tested. The XRF uses a source of Cd-109. Specific precision limits are established by the National Institute of Standards and Technology (NIST). The XRF instrument was checked using the NIST Standard Reference for calibration checks. The instrument’s operational mode is standard paint mode. This instrument is operated by Minnesota Department of Health licensed lead inspectors. Where conclusive results were not obtained by XRF testing, confirmatory paint chip samples were or can be collected for laboratory analysis. The XRF instrument was calibrated, using a known lead paint film, at the beginning, every four hours and at the end of each day.

Remarks

The Lead-Based Paint Poisoning Prevention Act (LBPPA) has established an action level for public housing. Under the statute, lead-based paint hazards equal to or greater than $1.0 \text{ mg}/\text{cm}^2$ or 0.5 percent by weight must be abated. It is important to keep in mind that the testing results of a component also apply to any similar component not tested. For example, if a white, painted baseboard tests positive then the entire white painted baseboard in that room is also considered positive.

All sampling was conducted by representatives of Angstrom Analytical, Inc. Standards for private or commercial housing may vary by locality.

Results

The results of the portable x-ray fluorescence (XRF) analysis of the representative building components are listed in appendix A. All paint testing was conducted using the XRF unit. The XRF was calibrated and the beginning of each days inspection, during the inspection and at the end of each days inspection. Calibration was conducted on known lead paint films provided by the manufacturer. The results of the calibrations are within acceptable limits of the Performance Characteristic Sheet for the instrument. XRF results are expressed in units of milligrams per square centimeter (mg/cm^2) (see Remarks for action levels). XRF results are classified as positive or negative. A component that tests positive indicates leads is present at or above the standard (see Remarks).

Discussion

Painted building components were assessed visually for condition. Paint is rated on its condition as intact, fair and poor. Intact means good condition, Fair means less than two square feet of damage to a large interior surface or less than 10 square feet to a large exterior surface or less than 10% damage to a small surface area. Poor condition means greater than 2 square feet of damage on large interior surface, more than 10 square feet on a large exterior surface or more than 10% damage to a small surface area. Painted surfaces listed as in fair or poor condition are considered deteriorated. Based on our inspection findings, lead based paint was identified on the following:

- Painted window components
- Painted doors and door components
- Walls

Lead Based Painted Components

- The white painted wood window components throughout the exterior.
- The white painted metal window and door trim throughout the exterior.
- The white painted wood doors throughout the exterior.
- The brown painted wood door leading to the basement.
- The white painted wood walls on the porch.
- The white painted wood service door and door trim on the garage.
- The white painted wood window trim on the garage.
- The white painted wood overhead door and door trim on the garage.

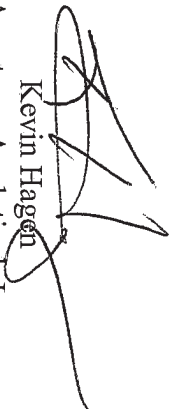
Please refer to the Lead Based Paint Testing Report (Appendix A) for specific locations and conditions. At a minimum, surfaces in fair to poor condition need to be stabilized. Intact lead based paint surfaces are not considered a hazard. However they do need to be maintained in an intact condition and periodically monitored. Specific surfaces not identified in this report should be treated as lead based unless testing proves otherwise.

Recommendations

Angstrom Analytical recommends that lead related work be performed by trained individuals and follow all applicable regulations regarding lead and lead hazards. If you are using federal funding you are required to use qualified firms, knowledgeable in hazards associated with lead and are certified / licensed to perform lead remediation services. A copy of this report must be provided to purchasers/lessees on this property under Federal law, 24 CFR part 35 and 40 CFR part 745.

If you have any questions or need further assistance, please call us at the number above.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kevin Hagen', with a large, stylized flourish extending from the bottom right.

Kevin Hagen
Angstrom Analytical, Inc.

131	1/19/2012 12:42 cal in					1554 minnehaha			Positive	1.1	0.1
132	1/19/2012 12:42 cal in					1554 minnehaha			Null	1	0.1
133	1/19/2012 12:42 cal in					1554 minnehaha			Positive	1.1	0.1
134	1/19/2012 12:43 cal in					1554 minnehaha			Positive	1.1	0.1
135	1/19/2012 12:44 WALL	DRYWALL	B	INTACT	BEIGE	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.03
136	1/19/2012 12:44 CEILING	DRYWALL		INTACT	BEIGE	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.03
137	1/19/2012 12:45 crown mold	WOOD		INTACT	WHITE	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.03
138	1/19/2012 12:46 WINDOW	WOOD	C	INTACT	WHITE	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.6
139	1/19/2012 12:46 WINDOW trim	WOOD	C	INTACT	WHITE	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.03
140	1/19/2012 12:46 BASEBOARD	WOOD	C	INTACT	WHITE	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.04
141	1/19/2012 12:47 CABINET	WOOD	C	INTACT	BROWN	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.03
142	1/19/2012 12:47 bench	WOOD	A	INTACT	WHITE	1554 minnehaha	FIRST	KITCHEN	Negative	< LOD	0.89
143	1/19/2012 12:48 WALL	DRYWALL	A	INTACT	TAN	1554 minnehaha	FIRST	BATHROOM	Negative	< LOD	0.03
144	1/19/2012 12:49 CEILING	DRYWALL		INTACT	WHITE	1554 minnehaha	FIRST	BATHROOM	Negative	< LOD	0.03
145	1/19/2012 12:49 DOOR	WOOD	D	INTACT	WHITE	1554 minnehaha	FIRST	BATHROOM	Negative	< LOD	0.04
146	1/19/2012 12:50 DOOR trim	WOOD	D	INTACT	WHITE	1554 minnehaha	FIRST	BATHROOM	Negative	< LOD	0.03
147	1/19/2012 12:51 WINDOW trim	WOOD	C	INTACT	BEIGE	1554 minnehaha	FIRST	tv room	Negative	< LOD	0.85
148	1/19/2012 12:51 WINDOW	WOOD	C	INTACT	BEIGE	1554 minnehaha	FIRST	tv room	Negative	< LOD	0.9
149	1/19/2012 12:52 BASEBOARD	WOOD	C	INTACT	WHITE	1554 minnehaha	FIRST	tv room	Negative	< LOD	0.52
150	1/19/2012 12:52 DOOR frame	WOOD	A	INTACT	WHITE	1554 minnehaha	FIRST	tv room	Negative	< LOD	0.03
151	1/19/2012 12:53 WALL	DRYWALL	D	INTACT	BEIGE	1554 minnehaha	FIRST	tv room	Negative	< LOD	0.03
152	1/19/2012 12:53 CEILING	DRYWALL		INTACT	WHITE	1554 minnehaha	FIRST	tv room	Negative	< LOD	0.03
153	1/19/2012 12:54 crown mold	DRYWALL	D	INTACT	WHITE	1554 minnehaha	FIRST	tv room	Negative	< LOD	0.03
154	1/19/2012 12:55 crown mold	WOOD	A	INTACT	WHITE	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.03
155	1/19/2012 12:55 WINDOW trough	WOOD	A	PEELING	WHITE	1554 minnehaha	FIRST	LIVING ROOM	Positive	10.2	4.4
156	1/19/2012 12:56 WINDOW	WOOD	A	INTACT	BROWN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.2
157	1/19/2012 12:56 WINDOW trim	WOOD	A	INTACT	BROWN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.05
158	1/19/2012 12:56 BASEBOARD	WOOD	A	INTACT	BROWN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.11
159	1/19/2012 12:57 CABINET	WOOD	B	INTACT	BROWN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.04
160	1/19/2012 12:57 FLOOR	WOOD		INTACT	BROWN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.07
161	1/19/2012 12:58 WALL	DRYWALL	C	INTACT	TAN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.52
162	1/19/2012 12:58 CEILING	DRYWALL		INTACT	WHITE	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	1.23
163	1/19/2012 12:59 DOOR	WOOD	C	INTACT	BROWN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.05
164	1/19/2012 12:59 DOOR trim	WOOD	C	INTACT	BROWN	1554 minnehaha	FIRST	LIVING ROOM	Negative	< LOD	0.12
165	1/19/2012 13:01 DOOR	WOOD	B	INTACT	BROWN	1554 minnehaha	BASEMENT STAIR		Positive	6.2	2.8
166	1/19/2012 13:01 DOOR frame	WOOD	B	INTACT	WHITE	1554 minnehaha	BASEMENT STAIR		Negative	< LOD	0.27
167	1/19/2012 13:01 BASEBOARD	WOOD	A	INTACT	WHITE	1554 minnehaha	BASEMENT STAIR		Negative	0.4	0.2
168	1/19/2012 13:02 TREAD	WOOD	A	INTACT	gray	1554 minnehaha	BASEMENT STAIR		Negative	0.7	0.3
169	1/19/2012 13:03 WALL	DRYWALL	C	POOR	TAN	1554 minnehaha	BASEMENT STAIR		Negative	< LOD	0.39

170	1/19/2012 13:04 FLOOR	CONCRETE		POOR	gray	1554 minnehaha	BASEMENT	Negative	< LOD	0.03
171	1/19/2012 13:04 WALL	CONCRETE	C	POOR	WHITE	1554 minnehaha	BASEMENT	Negative	< LOD	0.03
172	1/19/2012 13:05 WINDOW	WOOD	B	POOR	WHITE	1554 minnehaha	BASEMENT	Negative	0.6	0.2
173	1/19/2012 13:08 WINDOW	WOOD	C	INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Negative	< LOD	0.31
174	1/19/2012 13:09 WINDOW trough	METAL	C	INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Positive	3.6	2.3
175	1/19/2012 13:09 WINDOW trim	WOOD	C	INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Negative	< LOD	0.03
176	1/19/2012 13:10 WALL	DRYWALL	C	INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Negative	< LOD	0.05
177	1/19/2012 13:10 CEILING	DRYWALL		INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Negative	< LOD	0.03
178	1/19/2012 13:10 BASEBOARD	WOOD	C	INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Negative	< LOD	0.03
179	1/19/2012 13:11 DOOR	WOOD	A	INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Negative	< LOD	0.03
180	1/19/2012 13:11 DOOR trim	WOOD	A	INTACT	WHITE	1554 minnehaha	SECOND bedroom 2	Negative	< LOD	0.05
181	1/19/2012 13:12 DOOR trim	WOOD	B	INTACT	WHITE	1554 minnehaha	SECOND bedroom 1	Negative	< LOD	0.03
182	1/19/2012 13:12 BASEBOARD	WOOD	B	INTACT	WHITE	1554 minnehaha	SECOND bedroom 1	Negative	< LOD	0.03
183	1/19/2012 13:12 WALL	DRYWALL	B	INTACT	GREEN	1554 minnehaha	SECOND bedroom 1	Negative	< LOD	0.1
184	1/19/2012 13:13 CEILING	DRYWALL		INTACT	WHITE	1554 minnehaha	SECOND bedroom 1	Negative	< LOD	0.03
185	1/19/2012 13:13 WINDOW	WOOD	A	INTACT	WHITE	1554 minnehaha	SECOND bedroom 1	Negative	0.4	0.2
186	1/19/2012 13:13 WINDOW trim	WOOD	A	INTACT	WHITE	1554 minnehaha	SECOND bedroom 1	Negative	< LOD	0.03
187	1/19/2012 13:14 CEILING	DRYWALL		INTACT	TAN	1554 minnehaha	SECOND BATHROOM	Negative	< LOD	0.06
188	1/19/2012 13:15 WALL	DRYWALL	C	INTACT	TAN	1554 minnehaha	SECOND BATHROOM	Negative	< LOD	0.03
189	1/19/2012 13:16 DOOR	WOOD	A	INTACT	WHITE	1554 minnehaha	SECOND BATHROOM	Negative	< LOD	0.03
190	1/19/2012 13:16 DOOR trim	WOOD	A	INTACT	WHITE	1554 minnehaha	SECOND BATHROOM	Negative	< LOD	0.03
191	1/19/2012 13:17 BASEBOARD	WOOD	D	INTACT	WHITE	1554 minnehaha	SECOND BATHROOM	Negative	< LOD	0.03
192	1/19/2012 13:17 BASEBOARD	WOOD	D	INTACT	WHITE	1554 minnehaha	SECOND HALL	Negative	< LOD	0.03
193	1/19/2012 13:18 WALL	DRYWALL	A	INTACT	WHITE	1554 minnehaha	SECOND HALL	Negative	< LOD	0.03
194	1/19/2012 13:18 CEILING	DRYWALL		INTACT	WHITE	1554 minnehaha	SECOND HALL	Negative	< LOD	0.04
195	1/19/2012 13:19 WINDOW	WOOD	B	INTACT	WHITE	1554 minnehaha	SECOND STAIR	Negative	< LOD	0.16
196	1/19/2012 13:19 WINDOW trim	WOOD	B	INTACT	WHITE	1554 minnehaha	SECOND STAIR	Negative	< LOD	0.34
197	1/19/2012 13:19 BASEBOARD	WOOD	B	INTACT	WHITE	1554 minnehaha	SECOND STAIR	Negative	< LOD	0.34
198	1/19/2012 13:21 siding	METAL	A	INTACT	WHITE	1554 minnehaha	OUTSIDE	Negative	< LOD	0.03
199	1/19/2012 13:22 siding	METAL	A	INTACT	TAN	1554 minnehaha	OUTSIDE	Negative	< LOD	0.03
200	1/19/2012 13:23 WINDOW trim	METAL	A	INTACT	WHITE	1554 minnehaha	OUTSIDE	Null	1.3	0.4
201	1/19/2012 13:24 WINDOW trim	METAL	A	INTACT	WHITE	1554 minnehaha	OUTSIDE	Null	1.3	0.4
202	1/19/2012 13:24 WINDOW trim	METAL	A	INTACT	WHITE	1554 minnehaha	OUTSIDE	Positive	< LOD	10.05
203	1/19/2012 13:25 WALL	WOOD	A	INTACT	WHITE	1554 minnehaha	PORCH	Positive	14.7	5.6
204	1/19/2012 13:25 WINDOW sill	WOOD	A	PEELING	WHITE	1554 minnehaha	PORCH	Positive	< LOD	11.55
205	1/19/2012 13:26 DOOR	METAL	A	INTACT	BROWN	1554 minnehaha	PORCH	Negative	< LOD	0.05
206	1/19/2012 13:26 DOOR trim	METAL	A	INTACT	WHITE	1554 minnehaha	PORCH	Positive	4.9	2.1
207	1/19/2012 13:27 CEILING	WOOD		INTACT	BROWN	1554 minnehaha	PORCH	Negative	< LOD	0.4
208	1/19/2012 13:28 DOOR	WOOD	B	PEELING	WHITE	1554 minnehaha	GARAGE	Positive	25	7.6
209	1/19/2012 13:29 DOOR trim	WOOD	B	PEELING	WHITE	1554 minnehaha	GARAGE	Positive	3.5	1.3

210	1/19/2012 13:30 siding	vinyl	B	INTACT	WHITE	1554 minnehaha	GARAGE	Negative	< LOD	0.03
211	1/19/2012 13:30 WINDOW trim	WOOD	B	PEELING	WHITE	1554 minnehaha	GARAGE	Positive	4.9	1.7
212	1/19/2012 13:31 overhead door	WOOD	C	PEELING	WHITE	1554 minnehaha	GARAGE	Positive	5.8	3.5
213	1/19/2012 13:31 DOOR trim	WOOD	C	PEELING	WHITE	1554 minnehaha	GARAGE	Positive	< LOD	4.8
214	1/19/2012 13:33 cal out					1554 minnehaha		Positive	1.1	0.1
215	1/19/2012 13:33 cal out					1554 minnehaha		Positive	1.1	0.1
216	1/19/2012 13:34 cal out					1554 minnehaha		Positive	1	0.1
217	1/19/2012 13:34 cal out					1554 minnehaha		Null	< LOD	1.05

Minnesota Department of Health

has authorized

Angstrom Analytical, Inc.
5001 Cedar Lake Rd S
St Louis Park, Minnesota 55416

in accordance with Minnesota Statutes, section 144.9505 and Minnesota Rules, part 4761.2200,
to practice in the State of Minnesota as a

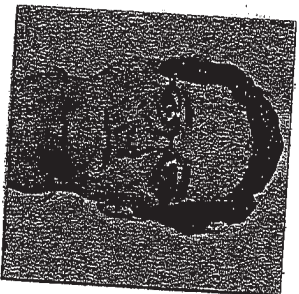
Certified Lead Firm

License No: LF127

Expires 12/08/2012

This certificate is nontransferable.


Linda B. Bruemmer, Director
Division of Environmental Health



MINN LEAD
RISK ASSESSOR

Licensed by:
State of Minnesota
Department of Health
License No. LR1089
Expires 08/15/2012

Steve E Wallinga
310 Deerwood Ln N
Plymouth, MN 55441

Steve E Wallinga
Director, Env. Health Div.



Kevin P. Hagen
Director, Env. Health Div.



LEAD
Risk Assessor

Licensed by:

State of Minnesota
Department of Health

License No. LR2036

Expires 09/19/2012

Kevin P Hagen
7038 Upper 36th St N
Oakdale, MN 55128

Asbestos Abatement Associates

INVOICE

TOTAL DUE 1,325.00

Salesperson Rick Pruitt
Invoice number 12-040
Invoice date 1/26/2012
Customer ID
Terms Due Upon Receipt

INVOICE TO

Name City of St. Paul
Address (line 1) Cindy Carlson
Address (line 2) 25 West 4th St. #1100
City, State or Prov. St. Paul, MN
Postal code, Country 55102
Phone 651-266-6689
Fax 651-228-3314
Company Name
PO #

JOB SITE

Name City of St. Paul
Address (line 1)
Address (line 2) 1554 Minnehaha Ave. E.
City, State or Prov. St. Paul, MN
Postal code, Country 55106
Phone
Fax

Please make checks payable to:

Asbestos Abatement Associates
3125 LOGAN AVENUE NORTH
MINNEAPOLIS MN 55411

DESCRIPTION	TOTAL
Asbestos & Hazardous Waste Survey Report Residence	\$625.00
Lead Protion Survey	\$700.00

Payment -
TOTAL AMOUNT DUE

TERMS: Upon Receipt

Sales tax % 1,325.00

1,325.00

Prompt payment is expected & appreciated

Any payment received after 15 days of invoice date is subject to a 5% service charge per each 30 day period



Asbestos Abatement Associates

3125 Logan Ave. N., Minneapolis, MN 55411

Asbestos/Hazardous Materials Survey

**Residential Property
1554 Minnehaha Ave. E.
St. Paul, MN 55106**

**Prepared by:
Asbestos Abatement Associates
3125 Logan Ave. N.
Mpls., MN 55411**

**Prepared for:
City of St. Paul
Cindy Carlson
25 West 4th St. #1100
St. Paul, MN 55102**

**Jacob Martin #9050
January 23, 2012**

(Signature)

(Date)

1-23-12

*North Metro: 612-588-7755
St. Paul: 651-633-4060*

*South Metro: 612-823-2955
Fax: 612-588-6780
Email: abutenow@poppi.net*



Asbestos Abatement Associates

3125 Logan Ave. N., Minneapolis, MN 55411

Project Description

1554 Minnehaha Ave. E., St. Paul, MN

Asbestos Abatement Associates was retained by Cindy Carlson of the City of St. Paul to conduct an Asbestos/Hazardous Materials Survey for a residential home located at 1554 Minnehaha Ave. E., St., St. Paul, MN. We were asked to prepare this report (the Survey) and report the findings of the Survey.

The reason for the visit is to identify friable and non-friable asbestos containing materials which may become friable during **renovation**.

The home is approximately 86 years old. It has 2 levels and is approximately 1,900 sq. ft. The structure is made of concrete footing and concrete brick foundation with concrete flooring throughout the basement. It is wood framed and sided with aluminum siding on exterior. There are hardwood and plywood floors throughout. The walls and ceilings are sheetrock and plaster. The attic and walls are insulated with blown in fiberglass. This home has an asphalt shingle roof and a newer furnace in the basement. The garage is wood framed, wood sided and has vinyl siding on exterior and it has asphalt shingle roofing. It is on a concrete slab.

This Survey represented by Jacob Martin on January 23, 2012. The Survey Area consisted of accessible portions of the Building at the time of the Survey.

Copies of Mr. Martin's Asbestos Inspector certificate and license are included.



Asbestos Abatement Associates

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Scope of Services

1554 Minnehaha Ave. E., St. Paul, MN

- A destructive assessment of accessible portions of the building was conducted Jacob Martin, Asbestos Building Inspector #9050. Suspect Asbestos containing building materials were identified per current Minnesota Department of Health (MDH) Asbestos Abatement Rules and Occupational Safety and Health Administration (OSHA) regulations.
- Samples of suspect ACM identified during the Survey were collected for laboratory analysis in accordance with MDH and OSHA regulations.
- The location, estimated quantity, and condition of suspect ACM were documented.
- The presence and/or quantity of other materials such as hazardous wastes or building materials that would be classified as special wastes for demolition were documented.
- The presence and/or quantity of equipment that could contain polychlorinated biphenyls (PCBs), ozone depleting chemicals (ODCs), and mercury or other regulated metals was documented.

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3125 Logan Ave. N., Minneapolis, MN 55411

Sampling Methodology

1554 Minnehaha Ave. E., St. Paul, MN

- Asbestos Abatement Associates identified homogenous building materials in accordance with the Environmental Protection Agency (EPA) Asbestos Hazardous Emergency Response Act (AHERA) 40 CFR Part 763, Subpart E as specified in MDH and OSHA rules and regulations. Homogenous areas are defined as areas of surfacing materials, thermal system insulation materials or other miscellaneous materials which upon examination for properties such as age, color, size and texture appear to be composed of the same material.
- The building materials are collected from randomly selected locations throughout the building where the material is found to be present. Samples of these materials are assumed to be representative of that material wherever it is found throughout the building.
- Samples of potential ACMs were collected by Asbestos Abatement Associates and were analyzed using Polarized Light Microscopy (PLM) by Carolina Environmental, Inc., in Cary, NC. NVLAP's National Voluntary Laboratory Accreditation Program code number is 10768-0. (Copy of Lab Qualification Included) The MDH, OSHA, and EPA define ACM as a material which contains greater than one percent asbestos by qualitative or quantitative analysis

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Asbestos Abatement Associates

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1554 Minnehaha Ave. E., St. Paul, MN

techniques. The EPA's National Emission Standard for Hazardous Air Pollutants (NESHAP) requires quantitative analysis, commonly referred to as a "point count", for all qualitative analysis results when asbestos is detected in concentrations less than one to ten percent. However, under common practice, qualitative results greater than three and less than ten percent are often accepted to be ACM.

Testing Results

Asbestos Abatement Associates collected a total of eighteen (18) samples of suspect (ACM) that were analyzed by Carolina Environmental, Inc.

See Survey/Sample Results in table on the next pages with the sample results in the page following.

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Asbestos Abatement Associates

3125 Logan Ave. N., Minneapolis, MN 55411

Sample Results

1554 Minnehaha Ave. E., St. Paul, MN

Sample #4 is the grey paper on basement joists and was found to contain 65% Chrysotile Asbestos containing material and must be removed by a State Licensed Asbestos Contractor with the estimated cost for removal \$1,050.00.

Sample #5 is grey paper on heat vents kitchen 1st floor and was found to contain 65% Chrysotile Asbestos containing material and must be removed by a State Licensed Asbestos Contractor with the estimated cost for removal \$1,250.00.

Sample #6 is grey paper on heat vents bedroom #2 on 2nd floor and were found to contain 65% Chrysotile Asbestos containing material and must be removed by a State Licensed Asbestos Contractor with the estimated cost for removal \$1,050.00.

Sample #18 is the brown caulking on the electrical inlet and was found to contain 10% Chrysotile Asbestos containing material and must be removed by a State Licensed Asbestos Contractor with the estimated cost for removal \$75.00.

All other items tested were found to be non-asbestos containing listed as follows:

- Window glazing white basement 1 total
- Window glazing white 1st floor 11 total
- Window glazing white 2nd level 6 total
- Ceramic floor tile white basement stairs 5x4
- Sheet flooring tan bathroom 1st floor bathroom 5x5

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- Sheet flooring top layer brown and white bathroom 2nd floor 5x4
- Sheet flooring 2nd layer white bathroom 2nd floor 5x4
- Sheetrock w/mud kitchen
- Sheetrock w/mud bedroom #1
- Sheetrock w/mud bedroom #2
- Ceiling texture white living room/dining room 24x10
- Ceiling texture white bedroom #2 23x14
- Ceiling texture white bedroom #1 23x16
- Brown sink under coating kitchen 1 each

Hazardous Waste Items Found On Site

- 1 dryer
- 1 stove
- 3 Smoke Detectors
- 1 water heater

The estimated cost for removal of Hazardous Waste items is \$350.00.

A12.0410



CAROLINA ENVIRONMENTAL, INC.

ASBESTOS BULK INSPECTION

Client: Asbestos Abatement Associates
 Project: City of St. Paul
 Address: 1554 Minnesota Ave. E.
 City, State: St. Paul 55106

pg 1 of 2

Date: 1/16/2012
 Inspector: **JACOB MARTIN**
 Project #: _____

Sample Number	Material	Physical Description	Location	Asbestos Type	Approximate Percent
1	Window Glazing	White	Basement 1 total		
2	Window Glazing	White	1 st Floor 11 total		
3	Window Glazing	White	2 nd level 6 total		
4	Paper	Grey	Basement Joists 15 linear ft		
5	Paper	Grey	Heat Vents Kitchen 1 st Floor 50 sq ft		
6	Paper	Grey	Heat Vents Bedroom #2 2 nd Floor 40 sq ft		
7	Ceramic Floor Tile	White	Basement Stairs 5x4		
8	Sheet Flooring	Tan	Bathroom 1 st Floor 5x5		
9	Sheet Flooring	Top Layer Brown/White	Bathroom 2 nd Floor 5x4		
10	↓	White 2 nd Layer	↓		

FT = Floor Tile CT = Ceiling Tile WLBHD = Wallboard JC = Joint Compound GLSPRY = Ceiling Spray On

FORM 11700 3

A12-0470



CAROLINA ENVIRONMENTAL, INC.

ASBESTOS BULK INSPECTION

Client: Asbestos Abatement Associates
 Project: City of St. Paul
 Address: 1554 Minnesota Ave. E.
 City, State: St. Paul 55106

Pg 2 of 2

Date: 1/16/2012
 Inspector: **JACOB MARTIN**
 Project #: _____

Sample Number	Material	Physical Description	Location	Asbestos Type	Approximate Percent
11	Sheetrock w/ composite	White	Kitchen		
12	Sheetrock w/ composite	White	Bedrm #1		
13	Sheetrock w/ composite	White	Bedrm #2		
14	Ceiling Texture	White	Living Room / Dining Room 24x10		
15	Ceiling Texture	White	Bedrm #2 23x14		
16	Ceiling Texture	White	Bedrm #1 23x16		
17	Under Coating	Brown	Kitchen ^{sink} total		
18	Caulking	Brown	Electrical Inlet 18 ft.		



CEI Labs
107 New Edition Court, Cary, NC 27511
Phone: (919) 481-1413 Fax: (919) 481-1442

LABORATORY REPORT ASBESTOS BULK ANALYSIS

Client: **Asbestos Abatement Associates**

3125 Logan Ave. N.

Minneapolis, MN 55411

CEI Lab Code: A12-0470

Received: 01-19-12

Analyzed: 01-20-12

Reported: 01-20-12

Analyst: Megan Brooks

Project: City of St. Paul: 1554 Minnehaha Ave. E.

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
1	A1242089	<u>WINDOW GLAZING</u> Heterogeneous, White, Non-fibrous, Bound BIND 95 % PAINT 5 %	ND
2	A1242090	<u>WINDOW GLAZING</u> Heterogeneous, White, Non-fibrous, Bound BIND 95 % PAINT 5 %	ND
3	A1242091	<u>WINDOW GLAZING</u> Heterogeneous, White, Non-fibrous, Bound BIND 95 % PAINT 5 %	ND
4	A1242092	<u>PAPER</u> Heterogeneous, Grey, Fibrous, Bound CHRY 65% BIND 20 % CELL 15 %	CHRY 65%
5	A1242093	<u>PAPER</u> Heterogeneous, Grey, Fibrous, Bound CHRY 65% BIND 20 % CELL 15 %	CHRY 65%
6	A1242094	<u>PAPER</u> Heterogeneous, Grey, Fibrous, Bound CHRY 65% BIND 20 % CELL 15 %	CHRY 65%

CEI Labs
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: : 919-481-1442

Project: City of St. Paul: 1554 Minnehaha Ave. E.
Lab Code: A12-0470

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
7	A1242095	CERAMIC TILE Heterogeneous, Tan, Non-fibrous, Tightly Bound BLIND 30 % SILI 70 %	ND
8	A1242096A	SHEET FLOORING TILE Heterogeneous, Tan, Non-fibrous, Bound VINYL 60 % CACO 40 %	ND
	A1242096B	MASTIC Heterogeneous, Clear, Non-fibrous, Bound MAST 95 % CELL 5 %	ND
9	A1242097A	SHEET FLOORING TILE Heterogeneous, Brown, White, Non-fibrous, Bound VINYL 60 % CACO 40 %	ND
	A1242097B	MASTIC Heterogeneous, Clear, Non-fibrous, Bound MAST 95 % CELL 5 %	ND
10	A1242098A	SHEET FLOORING TILE Heterogeneous, White, Non-fibrous, Bound VINYL 60 % CACO 40 %	ND
	A1242098B	MASTIC Heterogeneous, Clear, Non-fibrous, Bound MAST 95 % CELL 5 %	ND

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Phone: 919-481-1413 Fax: : 919-481-1442

Project: City of St. Paul: 1554 Minnehaha Ave. E.

Lab Code: A12-0470

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
11	A1242099	<u>SHEETROCK/MUD</u> White, Tan, Fibrous, Bound GYPSUM 75 % PAINT 5 %	ND 20 %
12	A1242100	<u>SHEETROCK/MUD</u> White, Tan, Fibrous, Bound GYPSUM 75 % PAINT 5 %	ND 20 %
13	A1242101	<u>SHEETROCK/MUD</u> White, Tan, Fibrous, Bound GYPSUM 75 % PAINT 5 %	ND 20 %
14	A1242102	<u>CEILING TEXTURE</u> White, Non-fibrous, Bound BIND 60 % PAINT 10 % VER 30 %	ND
15	A1242103	<u>CEILING TEXTURE</u> White, Non-fibrous, Bound BIND 60 % PAINT 10 % FOAM 30 %	ND
16	A1242104	<u>CEILING TEXTURE</u> White, Non-fibrous, Bound BIND 60 % PAINT 10 % FOAM 30 %	ND
17	A1242105	<u>SINK UNDERCOATING</u> Brown, Non-fibrous, Bound BIND 65 % PAINT 30 %	ND 5 %

CEI Labs
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: : 919-481-1442

Project: City of St. Paul: 1554 Minnehaha Ave. E.

Lab Code: A12-0470

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
18	A1242106	CAULKING	CHRY 10%
	Heterogeneous,	Brown, Fibrous, Bound	
	CHRY 10%	BIND 85 %	
	PAINT 5 %		

**The following definitions apply to the abbreviations used in the ASBESTOS
BULK ANALYSIS REPORT:**

CHRY = Chrysotile	CELL = Cellulose	DEBR = Debris
AMOS = Amosite	FBGL = Fibrous Glass	BIND = Binder
CROC = Crocidolite	CACO = Calcium Carbonate	SILI = Silicates
TREM = Tremolite	SYNT = Synthetics	GRAV = Gravel
ANTH = Anthophyllite	WOLL = Wollastonite	MAST = Mastic
ACTN = Actinolite	CERWL = Ceramic Wool	PLAS = Plaster
N D = None Detected	NTREM = Non-Asbestiform	PERL = Perlite
NANTH = Non-Asbestiform	Tremolite	RUBR = Rubber
Anthophyllite	FBGY = Fibrous Gypsum	VER = Vermiculite

CLIENT: Asbestos Abatement Associates

PROJECT: City of St. Paul: 1554 Minnehaha Ave. E.

CEI LAB CODE: A12-0470

Stereoscopic microscopy and polarized light microscopy coupled with dispersion staining is the analytical technique used for sample identification. The percentage of each component is visually estimated by volume. These results pertain only to the samples analyzed. The samples were analyzed as submitted by the client and may not be representative of the larger material in question. Unless notified in writing to return samples, CEI Labs will discard all bulk samples after 30 days.

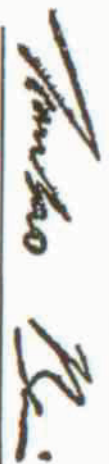
Many vinyl floor tiles have been manufactured using greater than 1% asbestos. Often the asbestos was milled to a fiber size below the detection limit of polarized light microscopy. Therefore, a "None Detected" (ND) reading on vinyl floor tile does not necessarily exclude the presence of asbestos. Transmission electron microscopy provides a more conclusive form of analysis for vinyl floor tiles.

It is certified by the signature below that CEI Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for the analysis of asbestos in bulk materials. The accredited test method is EPA / 600 / M4-82 / 020 for the analysis of asbestos in building materials. Procedures described in EPA / 600 / R-93 / 116 have been incorporated where applicable. The detection limit for the method is 0.1% (trace amount). CEI Labs's NVLAP accreditation number is #101768-0. This report is not to be used to claim product endorsement by NVLAP or any agency of the U. S. Government. This report and its contents are only valid when reproduced in full. Dust and soil analyses for asbestos using PLM are not covered under NVLAP accreditation.

ANALYST



REVIEWED BY



Tianbao Bai, Ph.D.
Laboratory Director

End of Report



Asbestos Abatement Associates

3125 Logan Ave. N., Minneapolis, MN 55411

The structure is ready to be demolished only after the Friable Asbestos containing items are removed by an Asbestos contractor. The non-friable Asbestos can remain in place for demolition but you must make the landfill aware the debris has non-friable class nine materials mixed in. Non Friable Asbestos containing materials are subject to the MPCA rules and notifications.

All hazardous materials need to be managed properly and removed prior to demolition. The following is a sample of hazardous building materials:

- Polychlorinated Biphenyls (PCBS) found in light ballasts, capacitors, HVAC systems, and transformers.
- Mercury found in fluorescent lamps, switches, vapor lamps, thermostats, metal halide lamps, high pressure sodium lamps, neon lamps, manometers, and gauges. Many mercury containing materials were used in appliances, HVAC systems, or industrial switches or controls, thermocouples, temperature sensors, and other electrical equipment.
- Pb based paint that is not adhering to the substrate.
- Refrigerants/CFCs/HCFs are found in refrigerators, AC systems, drinking fountains, dehumidifiers, vending machines, heat pumps, chillers, freezers, ice machines, food display cases.
- Appliances including stoves, refrigerators, furnaces, air exchangers, water heaters, etc.
- Chemicals, oils, batteries, paint cans, agricultural chemicals, other hazardous building materials.
- Trash, furniture, mattresses, engine parts, construction waste, etc.

Sincerely,
Jacob Martin

North Metro: 612-588-7755 South Metro: 612-823-2955
St. Paul: 651-633-4060 Fax: 612-588-6780
Email: abatenow@popp.net

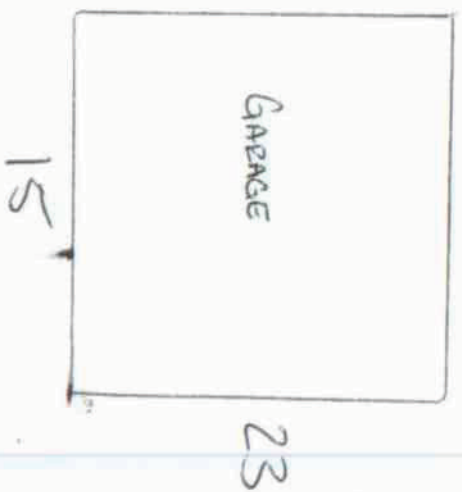
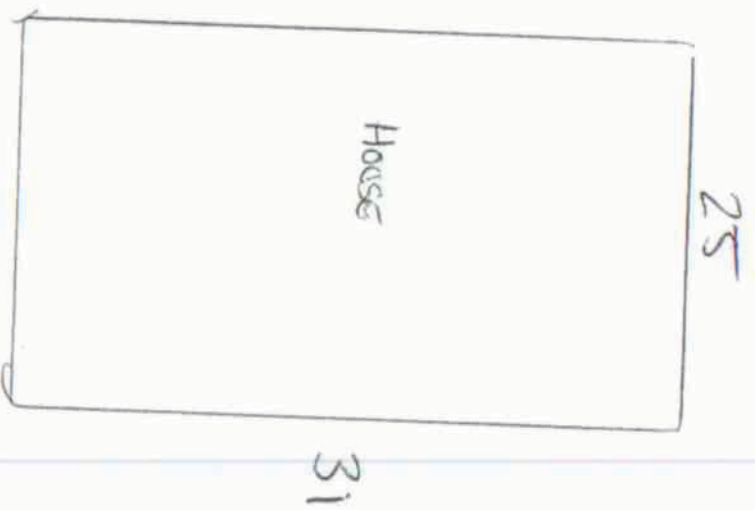


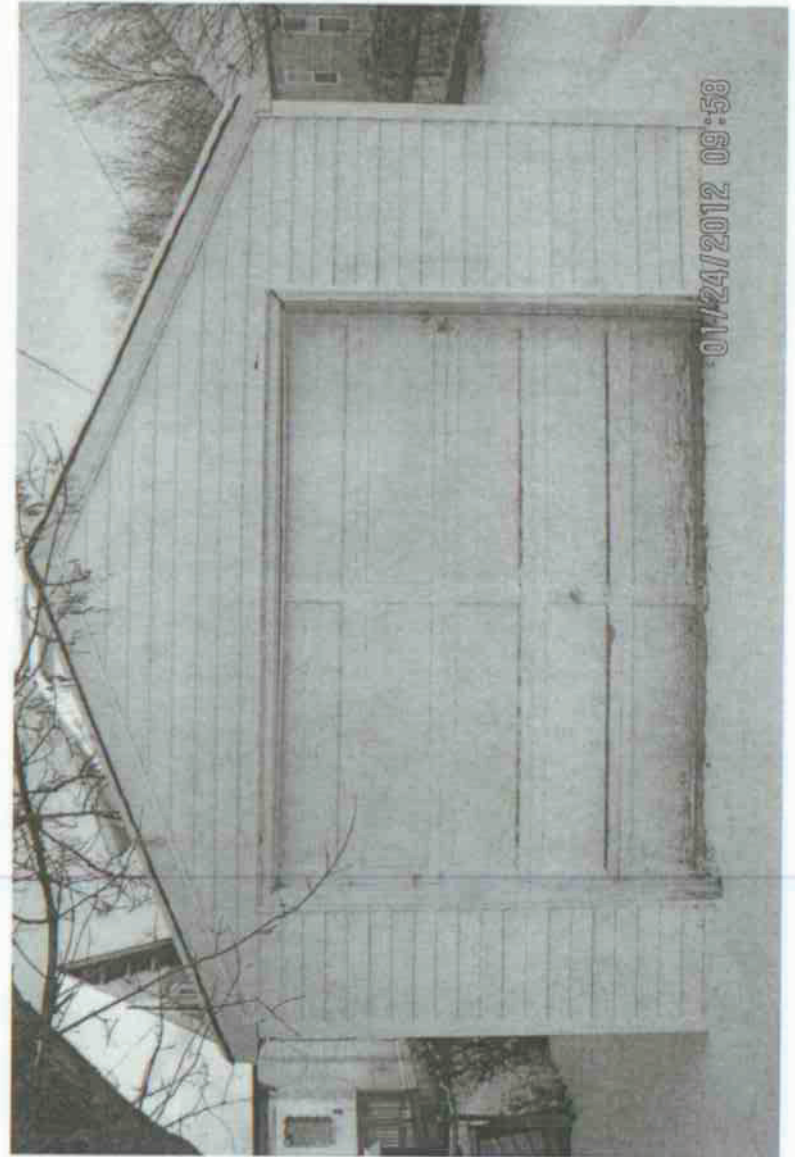
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Sampling Area Measurements for Abatement 1554 Minnehaha Ave. E., St. Paul, MN

Sample #4 grey basement joists	15 linear ft.
Sample #5 grey paper heat vents kitchen 1 st floor	50 sq. ft.
Samples #6 grey paper heat vents bedroom #2 2 nd floor	40 sq. ft.
Sample #18 brown caulking electrical inlet	1 sq. ft.





United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101768-0

Carolina Environmental, Inc.
Cary, NC

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

BULK ASBESTOS FIBER ANALYSIS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2009-04-01 through 2010-03-31

Effective dates



Sally S. Bruce
For the National Institute of Standards and Technology



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Carolina Environmental, Inc.

107 New Edition Court

Cary, NC 27511

Dr. Tianbao Bai

Phone: 919-481-1413 Fax: 919-481-1442

E-Mail: bai@ceilabs.com

URL: <http://www.ceilabs.com>

BULK ASBESTOS FIBER ANALYSIS (PLM)

NVLAP LAB CODE 101768-0

NVLAP Code Designation / Description

18/A01

EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2009-04-01 through 2010-03-31

Effective dates

Shelly S. Bruce
For the National Institute of Standards and Technology

Certificate No: 5LM08111101II

Expiration Date: August 11, 2012

This is to certify that
Jacob Martin Sr.
has attended and successfully completed an
**ASBESTOS INSPECTOR
INITIAL TRAINING COURSE**


permitted by
the State of Minnesota under Minnesota Rules 4620.3702 to 4620.3722
and meets the requirements of
Section 206 of Title II of the Toxic Substances Control Act (TSCA)
conducted by

Lake States Environmental, Ltd.

in
White Bear Lake, MN on August 9 - 11, 2011

Examination Date: August 11, 2011

Lake States Environmental, Ltd
P. O. Box 645, Rice Lake, WI 54868
(800) 254-9811


Training Instructor



ASBESTOS
INSPECTOR

Certified by:
State of Minnesota
Department of Health

Expires: 08/11/2012

Jacob M Martin
1933 Glenwood Pkwy
Golden Valley, MN 55422


Director, ETV, Health Div

No. A19050

Issued: 09/09/2011

READ THIS FIRST

This result has been rounded to one-tenth (0.1) of a pCi/L (picoCurie per liter), the most common method of reporting radon in air.

NEXT...PLEASE...READ

INTERPRETING YOUR TEST RESULT

The primary health risk from long-term exposure to radon is lung cancer. The risk of developing a lung cancer from radon exposure depends both on how much radon is present and how long you are exposed to radon. The higher the radon level or the longer the time of exposure, even if the levels are relatively low, the greater the risk. Exposures up to 4 pCi/L may present some risk of contracting lung cancer to more sensitive occupants, especially children. Recently the US Congress set as a goal the lowering of radon levels in buildings to equal the levels of outside air.

For those interested in the numbers, a picoCurie is 0.000,000,000,001 (one-trillionth) of a Curie, an international, non-SI unit of radioactivity. One pCi/L means that in one liter of air there will be 2.2 radioactive disintegrations each minute. For example, at 4 pCi/L there will be approximately 12,672 radioactive disintegrations in one liter of air, during a 24-hour period.

USEPA protocol describes two general types of radon measurements: short-term tests conducted from 48 hours up to 90 days, and long-term tests that last from 90 to 365 days. Your first test (initial/screening) should be a short-term, 'worst-case' screening to see if there is a potential for high exposure to radon. Screening tests should be conducted under closed-building conditions, in the lowest lived-in area in the house, because the highest concentrations of radon will usually be found in a room closest to the underlying soil. Tests made under these conditions are less likely to miss a house with a potential for high concentrations. On the other hand, if the results of worst-case screening tests are very low, there is a high probability that the average annual concentrations in the house are also low.

CITY OF ST PAUL HRA
1559 MINNELAHA
SAINT PAUL, MN 55102

season. Additionally, if you make any structural changes or start to use a lower level of the building more frequently, you should test again.

This test result reflects the amount of radon measured in this sample AFTER it arrived at our laboratory. All analysis computations are automatically adjusted to reflect the length of test, the amount of moisture in the sample, time from the end of test, and the amount of radiation measured. If ALL the test instructions were carefully followed, then it is reasonable to assume this is an accurate assessment of the average level of the radon this sample was exposed to during the time indicated on the test packet.

* Your state has designated a radon officer to assist citizens with questions on radon. Most offer free information on radon and radon reduction techniques, and most keep a list of qualified radon testing and mitigation businesses. Your radon officer can also provide the phone number of your regional USEPA office.

Conducting Follow-up Measurements

The higher your initial (screening) tests, the sooner you should conduct follow-up measurements. The EPA states that you should retest the same location that was tested initially. **For additional or follow-up testing**, make sure at least one test is conducted in the **lowest lived-in level** of the home. Also choose regularly used rooms, such as family rooms, dens, playrooms, or bedrooms. A bedroom on the lower level may be a good choice, because people generally spend the most time in their bedrooms (approximately one-third of the year). If there are children, it may be appropriate to test their rooms or other areas where they spend a lot of time, especially at the lower levels. All short-term follow-up tests **must** be conducted under closed-building conditions. If closed-building conditions cannot be maintained, a long-term measurement conducted under normal living conditions could be used to help estimate average annual exposures.

Tests **should not be conducted** in a kitchen or a bathroom because high humidity, exhaust fans, and other factors can adversely affect the test results. Tests **should not be conducted** in storage areas or laundry rooms, because relatively little time is spent there. Although radon in water may be a contributor to the concentration of airborne radon, radon in air should be **confirmed** before a test for radon in water is performed.

It is recommended that before spending any time or money on radon mitigation, one should conduct multiple (three or more) tests to be certain there is a need. A few more tests will most certainly cost considerably less than any mitigation work.

If follow-up measurements have **confirmed** that the average annual level of radon is equal to or greater than 4 pCi/L, the USEPA recommends that the building or home be mitigated for radon. Consider also that a future buyer is likely to demand that the building pass a radon test before purchasing.

Variations in Radon Levels: what can affect your test results and why it may be important to conduct confirmation tests.

When tests are performed in different seasons or under different weather conditions, the initial screening and follow-up tests may vary considerably. Radon levels can vary significantly between seasons, so different values **are to be expected**. Even during normal

weather, indoor radon levels may rise and fall by a factor of two on a daily cycle; for example, from 5 pCi/L to 10 pCi/L in 24 hours. During rapidly changing or stormy weather, the levels may change more dramatically. Because continual changes in radon levels are considered the norm, expose the testing device for as long as is practical, while following the manufacturer's recommendations. This, of course, provides a better overall average of the measurement.

If you are comparing tests, or are averaging a series of tests, bear in mind that any radon test returns only the average of the levels present during a **specific period of time** at the **precise location** of the test. Conditions during a different test period or at a different location in the building are **expected to be different**.

Test results can also vary if the radon test instructions were not carefully followed. A laboratory measuring radon in samples taken outside the lab **must rely on the person conducting the test**. For example, the wrong starting or ending date of a test will significantly affect the calculated result. The location of each radon test can also influence the result. For example, a test placed in the blowing air stream of a fan is likely to collect more radon than it would under normal conditions. Also, three tests conducted in one home, but in three different rooms, **would be expected to have at least slightly different test results**.

Test results from a properly used activated charcoal test will more closely reflect the average radon concentrations over the last three to five days of the test period. This happens because the radon collected by the activated charcoal has a radioactive half-life of only four days. This means, for example, over one-half of the radon collected during the first three days of a seven day test 'died' before the test ended. Seven day exposures of activated charcoal test devices are suggested because this allows the charcoal to equilibrate with its environment, averaging out the peaks and valleys that normally occur in real-life radon levels. Also the aspect of user convenience is considered, because most find it easier to remember to end a test on the same day of the week it was started.

If you have further questions regarding this test or need advice on follow-up testing, call fax or write to our technical service department listed below. Thank you for choosing the Air Check test device.

PERFORMING RADON TESTS FOR A REAL ESTATE TRANSACTION

EPA guidelines recommend that at least two short-term tests should be conducted, either together or sequentially, at the same location in the building. If the average of all the tests is below 4 pCi/L, then no further action is necessary at this time. It is **highly recommended** that any property transaction tests be conducted by a non-interested third party. To locate a listed or certified radon tester, contact your state or regional EPA radon office or visit our website at <http://www.radon.com> to download a list of NEHA-certified testers. Ask for or download publication number EPA 402-K-00-008 Home Buyers and Seller's Guide to Radon.

Limitation of Liability: While we at Air Check, Inc. make every effort to maintain the highest possible quality control and include several checks and verification steps in our procedures, we make **NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS** with respect to any item furnished, information supplied or services rendered you by Air Check, Inc. Before any action is taken on the basis of test results given to you by Air Check, Inc. we recommend that further testing be done. Neither Air Check, Inc., nor any of our employees or agents, shall be liable under any claim, charge, or demand, whether in contract, tort or otherwise, for any and all losses, costs, charges, claims, demands, fees, expenses, injuries or damages (including without limitation INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH ARE EXCLUDED) of any nature or kind arising out of, connected with, resulting from, or sustained as a result of any item furnished, information supplied, or service rendered to you by Air Check, Inc.

Notice to Pennsylvania Residents: The Radon Certification Act requires that anyone who provides any radon-related service or product to the general public must be certified by the Pennsylvania Department of Environmental Protection. You are entitled to evidence of certification from any person who provides such services or products. You are also entitled to a price list for services or products offered. All radon measurement data will be sent to the Department as required in the Act and will be kept confidential. If you have any questions, comments, or complaints concerning persons who provide radon-related services, please contact the Department of Environmental Protection, P.O. Box 8469, Harrisburg, PA 17105-8469 (717-783-4594).

The radon test kit(s) used for this report is certified by the NEHA-NRPP, Lab ID: 101138, for use in all fifty states. It is also listed or certified for use in all states that have a radon program.

For technical information, call (828) 684-0893. Office hours are Mon-Fri 8:30 to 5:30 EASTERN
You can reach us by Fax at (828) 684-8498 or write to Air Check, Inc., Box 2000, Naples, NC 28760
Web Site: <http://www.radon.com> **Email to:** info@radon.com

Home Energy Rating Certificate

1554 Minnehaha Ave E
Saint Paul, MN 55106



**3 Stars
Confirmed**

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

HERS Index: 167

General Information

Conditioned Area: 1684 sq. ft.
Conditioned Volume: 13468 cubic ft.
Bedrooms: 2
HouseType: Single-family detached
Foundation: Conditioned basement

Mechanical Systems Features

Heating: Fuel-fired air distribution, Natural gas, 80.0 AFUE.
Water Heating: Conventional, Natural gas, 0.63 EF, 40.0 Gal.

Duct Leakage to Outside: RESNET/HERS default
Ventilation System: None
Programmable Thermostat: Heating: No Cooling: No

Building Shell Features

Ceiling Flat: R-11, R-19
Vaulted Ceiling: R-13
Above Grade Walls: R-6
Foundation Walls: R-0.0
Slab: R-0.0 Edge, R-0.0 Under
Exposed Floor: NA
Window Type: S W Op (w/St)
Infiltration:
Rate: Htg: 4175 Clg: 4175 CFM50
Method: Blower door test

Lights and Appliance Features

Percent Interior Lighting: 0.00
Percent Garage Lighting: 0.00
Refrigerator (kWh/yr): 691.00
Dishwasher Energy Factor: 0.46
Range/Oven Fuel: Natural gas
Clothes Dryer Fuel: Natural gas
Clothes Dryer EF: 2.67
Ceiling Fan (cfm/Watt): 0.00

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.99

This information does not constitute any warranty of energy cost or savings.

© 1985-2012 Architectural Energy Corporation, Boulder, Colorado.

Registry ID:

Rating Number: 526-1275

Certified Energy Rater: Michael Childs

Rating Date: 5/18/2012

Rating Ordered For: City of Saint Paul

Estimated Annual Energy Cost

Use	Confirmed		
	MMBtu	Cost	Percent
Heating	242.5	\$2251	72%
Cooling	0	\$0	0%
Hot Water	17.4	\$157	5%
Lights/Appliances	23.4	\$519	17%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$180	6%
Total		\$3107	100%

**This home meets or exceeds the minimum
criteria for all of the following:**

TITLE

Company

Address

City, State, Zip

Phone #

Fax #

Home Energy Rating Certificate

1554 Minnehaha Ave E
Saint Paul, MN 55106



4 Stars
Projected Rating

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

HERS Index: 96

General Information

Conditioned Area: 1684 sq. ft.
Conditioned Volume: 13468 cubic ft.
Bedrooms: 2

HouseType: Single-family detached
Foundation: Conditioned basement

Mechanical Systems Features

Heating: Fuel-fired air distribution, Natural gas, 95.0 AFUE.
Water Heating: Conventional, Natural gas, 0.67 EF, 40.0 Gal.
Cooling: Air conditioner, Electric, 16.0 SEER.
Duct Leakage to Outside: RESNET/HERS default
Ventilation System: Exhaust Only: 40 cfm, 15.0 watts.
Programmable Thermostat: Heating: Yes Cooling: Yes

Building Shell Features

Ceiling Flat: R-50, R-19 Exposed Floor: NA
Vaulted Ceiling: R-13 Window Type: NFRC .34 / .33
Above Grade Walls: R-13 Infiltration:
Foundation Walls: R-0.0 Rate: Htg: 1650 Clg: 1650 CFM50
Slab: R-0.0 Edge, R-0.0 Under Method: Blower door test

Lights and Appliance Features

Percent Interior Lighting: 90.00 Range/Oven Fuel: Natural gas
Percent Garage Lighting: 0.00 Clothes Dryer Fuel: Natural gas
Refrigerator (kWh/yr): 691.00 Clothes Dryer EF: 2.67
Dishwasher Energy Factor: 0.46 Ceiling Fan (cfm/Watt): 0.00

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.99

This information does not constitute any warranty of energy cost or savings.
© 1985-2012 Architectural Energy Corporation, Boulder, Colorado.

Registry ID:

Rating Number: 526-1275

Certified Energy Rater: Michael Childs

Rating Date: 5/18/2012

Rating Ordered For: City of Saint Paul

Estimated Annual Energy Cost

Projected Rating

Use	MMBtu	Cost	Percent
Heating	133.5	\$1216	60%
Cooling	1.1	\$32	2%
Hot Water	16.4	\$148	7%
Lights/Appliances	20.6	\$446	22%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$180	9%
Total		\$2022	100%

**This home meets or exceeds the minimum
criteria for all of the following:**

TITLE

Company

Address

City, State, Zip

Phone #

Fax #

Neighborhood Energy Connection

Residential Energy Specification

Customer: City of Saint Paul

Auditor: Michael Childs

Address: 1554 Minnehaha Avenue E

Phone: 651-221-4462 x145

Spec ID#	Spec Title	Specification	Location / Notes
104	Replace Furnace with 95% AFUE, Multi-stage, Forced Air Furnace	Remove existing furnace, recycle all metal components and dispose of all other materials in a code legal dump. Install a new ENERGY STAR rated, gas-fired, multi-stage burner, forced air furnace with a minimum AFUE rating of 95%+ and ECM Motor with 2" rise above floor. Connect to existing duct work and gas line. New furnace to be vented with PVC piping per manufacturer's specifications. New furnace will have minimum limited warranties of 20 years on heat exchangers; 5 years on parts. Include auto setback thermostat controls, vent pipe & new shut-off valve. Rework cold air return if necessary to ensure easy access, good fit & easy replacement of air filter. An exterior return air filter box shall be installed on one side, both sides or bottom of new furnace. Seal all exposed duct joints with duct mastic. Remove all existing cloth duct tape prior to installing mastic.	Option 2.
106	Replace Furnace and Water Heater with a combined space and water heating system for forced air	Install a 95%+ condensing water heater with a hydronic air handler sized to meet load of the house for space and water heating. Consult NEC for more details if needed.	Option 1.

304	Replace Water Heater with Power Vented .67 EF	Replace water heater with a power-vented water heater with an EF of .67. Include pressure & temperature release valve, discharge tube to within 6" of floor and PVC flue to power vent to exterior.	Option 2.
310	Install Central Air Conditioning Unit	Install 16 SEER split system central air conditioning unit, following local building code. Using OEM performance information and industry-approved procedures, confirm that the selected equipment satisfies/meets the load requirements at the system design conditions.	
500	Seal Attic Bypasses	Contractor shall seal all attic bypasses. Bypasses shall be defined as any break in the envelope of a house between a heated living space and an unheated area or exterior. Bypass locations include, but are not limited to, the following areas: chimneys, soil stacks, end walls, dropped ceilings, open plumbing walls and around duct work, electrical work and attic access points. Bypasses shall be sealed in such a manner that the movement of air through the bypass is essentially stopped. "Essentially stopped" means that air leakage will not be detected by an infrared scan when the house is pressurized to 30 Pascals. Materials to be used for sealing bypasses depend on the size and location of the bypass and meet code requirements. These materials include high quality caulks (20-year life span), polyethylene rod stock, foam, sheetrock, sheet metal, extruded polystyrene and densely packed insulation.	
510	Blow Open Attic to R-50	All bypasses shall be sealed before insulating in such a manner that the movement of air through the bypass is essentially stopped. Blow insulation to depth indicated on manufacturer's coverage chart, consistently and evenly to R-50. Insulation in the peak attic must be marked with a ruler to measure depth and a sign with the number of bags used and the date of the installation.	

512	Dense Pack Slants to capacity with cellulose	Determine cavities are free of hazards and can support dense packing pressures, locate drilling hazards, control dust when drilling from interior. Blow Slant walls with cellulose to capacity using the Dense Pack Method to a minimum density 3.5 lbs./ft ³ .	Fiberglass existing – dense pack if possible. Method depends on extent of rehab work.
514	Spray Foam Open Slants	Follow manufacturer's instructions to completely and evenly fill the cavity.	Fiberglass existing – dense pack if possible. Method depends on extent of rehab work.
520	Insulate Open Knee walls with Fiberglass Batts	All knee walls shall have a top and bottom plate or blockers installed using a rigid material. Air seal all joints, cracks and penetrations in finished material including interior surface to framing connections. Insulate all knee walls to R-19 with encapsulated fiberglass.	Re-do existing insulation as needed.
526	Insulate Above and below Bay Windows	Insulate space above bays to capacity and insulate floor to capacity. Access holes must be patched, plugged and painted as necessary.	
532	Insulate and weather strip attic access	Access hatch panel to attic shall be insulated to R-44 and opening shall be weather stripped to provide a tight seal.	Current access is in vertical wall.

608	Wall insulation - Exterior Application: Remove Aluminum Siding, Drill, Dense Pack, Plug and Replace Siding	Siding shall be removed before drilling access holes. Determine cavities are free of hazards and can support dense packing pressures, locate drilling hazards, control dust when drilling from interior. Dense pack cellulose to a minimum density of 3.5 lbs./ft ³ or dense pack spider fiberglass per manufacturer's instructions. Siding must be replaced without damage and nailed back with appropriate galvanized nails. Follow all applicable Lead Safe Work Practices as per the EPA's RRP Rules.	Blown mineral wool and fiberglass batts existing. Method depends on extent of rehab work.
616	Wall insulation - Interior Application: Dense Pack Cellulose	Exterior walls insulated from inside the house shall be drilled through to provide access. Determine cavities are free of hazards and can support dense packing pressures, locate drilling hazards, control dust when drilling from interior. Dense pack cellulose to a minimum density of 3.5 lbs./ft ³ or dense pack spider fiberglass per manufacturer's instructions. Follow all applicable Lead Safe Work Practices as per the EPA's RRP Rules.	Blown mineral wool and fiberglass batts existing. Method depends on extent of rehab work.
618	Wall insulation - Interior Application: Fiberglass batt open cavities	Fit batt insulation between studs so that it fills the wall cavity without any gaps, voids, or compression. Call the NEC before sheet rocking.	Blown mineral wool and fiberglass batts existing. Method depends on extent of rehab work.
620	Wall insulation - Interior Application: Spray foam open cavities	Follow manufacturer's instructions to completely and evenly fill the cavity. Call the NEC for inspection before sheet rocking.	Blown mineral wool and fiberglass batts existing. Method depends on extent of rehab work.

804	Air Seal and Insulate Rim Joist using two-part foam	Apply two-part foam evenly and consistently according to manufacturer's instructions to insulate to R-10 around basement rim joist.	Option 1.
806	Air Seal and Insulate Rim Joist using rigid foam	Seal cracks and holes in rim joist before insulating. Caulk or foam 3 inches of rigid insulation in place.	Option 2.
1000	Install ENERGY STAR Rated Kitchen Fan	Install an ENERGY STAR rated exhaust fan connected with insulated rigid ductwork into a dampered vent.	
1010	Install ENERGY STAR Rated 2-stage Bathroom Fan	Install an ENERGY STAR rated two-speed bathroom fan .8 sones or less, with a pre-set low-speed of 10-30 CFM and a high-speed boost capability of 70-110 CFM initiated by a wall switch or motion detector. Vent bathroom fan using rigid duct and insulated with fiberglass and vented out with dampered roof vent.	
1200	Replace incandescents with CFLs	Replace incandescent bulbs with ENERGY STAR rated compact fluorescent lights. Install fixtures that meet the lighting needs of the particular area.	
1210	Install ENERGY STAR Rated Washing Machine	Connect new ENERGY STAR rated clothes washer sized appropriately for the household. Use braided steel water supply lines and a smooth rubber drain line connected to a 2 inch drain with trap. Remove existing washer, recycle all metal components and dispose of all other materials in a code legal dump.	

1212	Install ENERGY STAR Rated Dishwasher	Install ENERGY STAR rated dishwasher including all alterations and connections to plumbing and electric system. Remove existing dishwasher, recycle all metal components and dispose of all other materials in a code legal dump.	
1214	Install ENERGY STAR Rated Refrigerator	Install ENERGY STAR rated refrigerator sized appropriately for the household. Remove existing refrigerator, recycle all metal components and dispose of all other materials in a code legal dump.	